



**AMENDMENTS TO THE SPECIFICATION**

Please replace the section in the application entitled "CROSS-REFERENCE TO RELATED APPLICATION" with the following amended section:

**CROSS-REFERENCE TO RELATED APPLICATION**

This application is a Continuation of Application Serial No. 10/177,568, filed June 21, 2002, now U.S. Patent No. 6,722,433, the entire disclosure of which is incorporated herein by reference.

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Claims:**

1. (Currently Amended) A method of sealing an expandable pipe or pipe string in a well bore comprising:  
placing a compressible hydraulic cement composition in an annulus between the well bore and the expandable pipe or pipe string; and  
expanding the expandable pipe or pipe string whereby the compressible composition is compressed.
2. (Original) The method of claim 1 wherein the compressible composition remains competent when compressed.
3. (Original) The method of claim 1 wherein the compressible composition is foamed.
4. (Cancelled)
5. (Currently Amended) The method of claim ~~[[4]]~~ 1 wherein the compressible hydraulic cement composition comprises a hydraulic cement, a rubber latex, a rubber latex stabilizer, a gas, and a mixture of foaming and foam stabilizing surfactants.
6. (Currently Amended) The method of claim ~~[[4]]~~ 1 wherein the compressible hydraulic cement composition comprises at least one from the following group: a calcium aluminate cement, a Portland cement, ~~or~~ and a Portland blast furnace cement.
7. (Currently Amended) The method of claim ~~[[4]]~~ 1 wherein the compressible hydraulic cement composition comprises calcium aluminate cement.
8. (Currently Amended) The method of claim 5 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, ~~or~~ and an acrylonitrilbutadiene emulsion.
9. (Original) The method of claim 5 wherein the rubber latex is a styrene/butadiene copolymer latex emulsion containing water in an amount in the range of from about 40% to about 70% by weight of the latex.

10. (Original) The method of claim 5 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

11. (Original) The method of claim 5 wherein the rubber latex stabilizer comprises a surfactant having the formula  $R-Ph-O(OCH_2CH_2)_mOH$  wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula  $R_1(R_2O)_nSO_3X$  wherein  $R_1$  is an alkyl group having from about 5 to about 20 carbon atoms,  $R_2$  is the group  $-CH_2-CH_2-$ , n is an integer from about 10 to about 40 and X is a cation.

12. (Original) The method of claim 5 wherein the rubber latex stabilizer is a surfactant having the formula  $H(CH_2)_{12-15}(CH_2CH_2O)_{15}SO_3Na$ .

13. (Original) The method of claim 5 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

14. (Currently Amended) The method of claim 5 wherein the gas comprises at least one from the following group: air or and nitrogen.

15. (Original) The method of claim 5 wherein the gas is nitrogen.

16. (Original) The method of claim 5 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

17. (Original) The method of claim 5 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

18. (Original) The method of claim 5 wherein the mixture of foaming and foam stabilizing surfactants is present in the composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

19. (Original) The method of claim 5 wherein the composition further comprises a viscosity increasing agent.

20. (Currently Amended) The method of claim 19 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, ~~or~~ and guar gum.

21. (Original) The method of claim 19 wherein the viscosity increasing agent is bentonite.

22. (Original) The method of claim 19 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

23. (Original) The method of claim 5 wherein the composition further comprises a density adjusting weighting material.

24. (Currently Amended) The method of claim 23 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, ~~or~~ and manganese oxide.

25. (Original) The method of claim 23 wherein the density adjusting weighting material is particulate iron oxide.

26. (Original) The method of claim 23 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

27. (Original) The method of claim 5 wherein the composition further comprises a cement set retarder.

28. (Currently Amended) The method of claim 27 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, ~~or~~ and a sugar.

29. (Original) The method of claim 27 wherein the set retarder is citric acid.

30. (Original) The method of claim 27 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

31. (Original) A method of sealing an expandable pipe or pipe string in a well bore comprising:

placing a compressible composition in an annulus between the well bore and the expandable pipe or pipe string;

allowing the composition to harden; and  
expanding the expandable pipe or pipe string whereby the hardened composition is compressed.

32. (Original) The method of claim 31 wherein the compressible composition remains competent when compressed.

33. (Original) The method of claim 31 wherein the compressible composition is foamed.

34. (Original) The method of claim 31 wherein the compressible composition is a compressible hydraulic cement composition.

35. (Original) The method of claim 34 wherein the compressible hydraulic cement composition comprises a hydraulic cement, a rubber latex, a rubber latex stabilizer, a gas, and a mixture of foaming and foam stabilizing surfactants.

36. (Currently Amended) The method of claim 34 wherein the compressible hydraulic cement composition comprises at least one from the following group: a calcium aluminate cement, a Portland cement, ~~or~~ and a Portland blast furnace cement.

37. (Original) The method of claim 34 wherein the compressible hydraulic cement composition comprises calcium aluminate cement.

38. (Currently Amended) The method of claim 35 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, ~~or~~ and an acrylonitrilbutadiene emulsion.

39. (Original) The method of claim 35 wherein the rubber latex is a styrene/butadiene copolymer latex emulsion containing water in an amount in the range of from about 40% to about 70% by weight of latex.

40. (Original) The method of claim 35 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

41. (Original) The method of claim 35 wherein the rubber latex stabilizer comprises a surfactant having the formula  $R-Ph-O(OCH_2CH_2)_mOH$  wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula  $R_1(R_2O)_nSO_3X$  wherein  $R_1$  is an alkyl group having from

about 5 to about 20 carbon atoms,  $R_2$  is the group  $-\text{CH}_2-\text{CH}_2-$ ,  $n$  is an integer from about 10 to about 40 and  $X$  is a cation.

42. (Original) The method of claim 35 wherein the rubber latex stabilizer is a surfactant having the formula  $\text{H}(\text{CH}_2)_{12-15}(\text{CH}_2\text{CH}_2\text{O})_{15}\text{SO}_3\text{Na}$ .

43. (Original) The method of claim 35 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

44. (Currently Amended) The method of claim 35 wherein the gas comprises at least one from the following group: air ~~or~~ and nitrogen.

45. (Original) The method of claim 35 wherein the gas is nitrogen.

46. (Original) The method of claim 35 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

47. (Original) The method of claim 35 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

48. (Original) The method of claim 35 wherein the mixture of foaming and foam stabilizing surfactants is present in the composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

49. (Original) The method of claim 35 wherein the composition further comprises a viscosity increasing agent.

50. (Currently Amended) The method of claim 49 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, ~~or~~ and guar gum.

51. (Original) The method of claim 49 wherein the viscosity increasing agent is bentonite.

52. (Original) The method of claim 49 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

53. The method of claim 35 wherein the composition further comprises a density adjusting weighting material.

54. (Currently Amended) The method of claim 53 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, ~~or~~ and manganese oxide.

55. (Original) The method of claim 53 wherein the density adjusting weighting material is particulate iron oxide.

56. (Original) The method of claim 53 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

57. (Original) The method of claim 35 wherein the composition further comprises a cement set retarder.

58. (Currently Amended) The method of claim 57 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, ~~or~~ and a sugar.

59. (Original) The method of claim 57 wherein the set retarder is citric acid.

60. (Original) The method of claim 57 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

61. (Original) A method of sealing an expandable pipe or pipe string in a well bore comprising:

placing a compressible hydraulic cement composition which remains competent when compressed in an annulus between the well bore and the expandable pipe or pipe string;

allowing the composition to harden; and

expanding the expandable pipe or pipe string whereby the hardened composition is compressed.

62. (Currently Amended) The method of claim 61 wherein the compressible hydraulic cement composition comprises at least one from the following group: a calcium aluminate cement, a Portland cement, ~~or~~ and a Portland blast furnace cement.

63. (Original) The method of claim 61 wherein the compressible hydraulic cement composition comprises calcium aluminate cement.



64. (Original) The method of claim 61 wherein the compressible hydraulic cement composition is foamed.

65. (Original) The method of claim 61 wherein the compressible hydraulic cement composition comprises a hydraulic cement, a rubber latex, a rubber latex stabilizer, a gas, and a mixture of foaming and foam stabilizing surfactants.

66. (Currently Amended) The method of claim 65 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, ~~or~~ and an acrylonitrilbutadiene emulsion.

67. (Original) The method of claim 65 wherein the rubber latex is a styrene/butadiene copolymer latex emulsion containing water in an amount in the range of from about 40% to about 70% by weight of the latex.

68. (Original) The method of claim 65 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

69. (Original) The method of claim 65 wherein the rubber latex stabilizer comprises a surfactant having the formula  $R-Ph-O(OCH_2CH_2)_mOH$  wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula  $R_1(R_2O)_nSO_3X$  wherein  $R_1$  is an alkyl group having from about 5 to about 20 carbon atoms,  $R_2$  is the group  $-CH_2-CH_2-$ , n is an integer from about 10 to about 40 and X is a cation.

70. (Original) The method of claim 65 wherein the rubber latex stabilizer is a surfactant having the formula  $H(CH_2)_{12-15}(CH_2CH_2O)_{15}SO_3Na$ .

71. (Original) The method of claim 65 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

72. (Currently Amended) The method of claim 65 wherein the gas comprises at least one from the following group: air ~~or~~ and nitrogen.

73. (Original) The method of claim 65 wherein the gas is nitrogen.

74. (Original) The method of claim 65 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

75. (Original) The method of claim 65 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

76. (Original) The method of claim 65 wherein the mixture of foaming and foam stabilizing surfactants is present in the composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

77. (Original) The method of claim 65 wherein the composition further comprises a viscosity increasing agent.

78. (Currently Amended) The method of claim 77 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, ~~or~~ and guar gum.

79. (Original) The method of claim 77 wherein the viscosity increasing agent is bentonite.

80. (Original) The method of claim 77 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

81. (Original) The method of claim 65 wherein the composition further comprises a density adjusting weighting material.

82. (Currently Amended) The method of claim 81 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, ~~or~~ and manganese oxide.

83. (Original) The method of claim 81 wherein the density adjusting weighting material is particulate iron oxide.

84. (Original) The method of claim 81 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

85. (Original) The method of claim 65 wherein the composition further comprises a cement set retarder.

86. (Currently Amended) The method of claim 85 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, ~~or~~ and a sugar.

87. (Original) The method of claim 85 wherein the set retarder is citric acid.

88. (Original) The method of claim 85 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

89. (Original) A foamable and compressible composition for sealing an expandable pipe or pipe string in a well bore comprising hydraulic cement, rubber latex, and a latex stabilizer.

90. (Original) The composition of claim 89 wherein the composition is foamed.

91. (Original) The composition of claim 89 wherein the composition comprises a gas.

92. (Currently Amended) The composition of claim 91 wherein the gas comprises at least one from the following group: air ~~or~~ and nitrogen.

93. (Original) The composition of claim 91 wherein the gas is present in the composition in an amount in the range of from about 5% to about 35% by volume of the non-foamed composition.

94. (Currently Amended) The composition of claim 89 wherein the hydraulic cement comprises at least one from the following group: a calcium aluminate cement, a Portland cement, ~~or~~ and a Portland blast furnace cement.

95. (Original) The composition of claim 89 wherein the composition comprises a mixture of foaming and foam stabilizing surfactants.

96. (Original) The composition of claim 95 wherein the mixture of foaming and foam stabilizing surfactants is a mixture of an ethoxylated alcohol ether sulfate surfactant, an alkyl or alkene amidopropyl betaine surfactant, and an alkyl or alkene amidopropyl dimethyl amine oxide surfactant.

97. (Original) The composition of claim 95 wherein the mixture of foaming and foam stabilizing surfactants is present in the foamed composition in an amount in the range of from about 4% to about 10% by volume of rubber latex therein.

98. (Currently Amended) The composition of claim 89 wherein the rubber latex comprises at least one from the following group: a styrene/butadiene copolymer latex emulsion, a polychloroprene emulsion, a polyisoprene emulsion, ~~or~~ and an acrylonitrilbutadiene.

99. (Original) The composition of claim 89 wherein the rubber latex is present in the composition in an amount in the range of from about 80% to about 300% by weight of cement therein.

100. (Original) The composition of claim 89 wherein the rubber latex stabilizer comprises a surfactant having the formula  $R-Ph-O(OCH_2CH_2)_mOH$  wherein R is an alkyl group having from about 5 to about 30 carbon atoms, Ph is phenyl and m is an integer of from about 5 to about 50, or a surfactant having the formula  $R_1(R_2O)_nSO_3X$  wherein  $R_1$  is an alkyl group having from about 5 to about 20 carbon atoms,  $R_2$  is the group  $-CH_2-CH_2-$ , n is an integer from about 10 to about 40 and X is a cation.

101. (Original) The composition of claim 89 wherein the rubber latex stabilizer is present in the composition in an amount in the range of from about 3% to about 6% by weight of rubber latex therein.

102. (Original) The composition of claim 89 wherein the composition further comprises a viscosity increasing agent.

103. (Currently Amended) The composition of claim 102 wherein the viscosity increasing agent comprises at least one from the following group: bentonite, hydroxyethyl cellulose, sodium silicate, ~~or~~ and guar gum.

104. (Original) The composition of claim 102 wherein the viscosity increasing agent is present in the composition in an amount in the range of from about 5% to about 10% by weight of cement therein.

105. (Original) The composition of claim 89 wherein the composition further comprises a density adjusting weighting material.

106. (Currently Amended) The composition of claim 105 wherein the density adjusting weighting material comprises at least one from the following group: a particulate iron oxide, barium sulfate, galena, ~~or~~ and manganese oxide.

107. (Original) The composition of claim 105 wherein the density adjusting weighting material is present in the composition in an amount in the range of from about 1% to about 250% by weight of cement therein.

108. (Original) The composition of claim 89 wherein the composition further comprises a cement set retarder.

109. (Currently Amended) The composition of claim 108 wherein the set retarder comprises at least one from the following group: citric acid, sodium gluconate, gluconic acid, sodium citrate, ~~or~~ and a sugar.

110. (Original) The composition of claim 108 wherein the set retarder is present in the composition in an amount in the range of from about 0.2% to about 4% by weight of cement therein.

## **REMARKS / ARGUMENTS**

### **I. General Remarks**

Please consider the application in view of the following remarks. Applicants thank the Examiner for his careful consideration of this application.

### **II. Disposition of Claims**

Claims 1-3 and 5-110 are pending in this application. Claim 4 has been cancelled herein.

Claims 1, 5-8, 14, 20, 24, 28, 36, 38, 44, 50, 54, 58, 62, 66, 72, 78, 82, 86, 92, 94, 98, 103, 106, and 109 have been amended herein. These amendments are supported by the specification as filed.

Claims 3-110 stand rejected on the grounds of nonstatutory obviousness-type double patenting. Claims 1 and 2 stand rejected under 35 U.S.C. § 102(e).

### **III. Rejections of Claims**

#### **A. Double Patenting Rejections**

Claims 3-110 stand rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-103 of U.S. Patent No. 6,722,433 to Brothers *et al.* ("the '433 Patent"). (See Office Action at page 2.) Submitted herewith is the appropriate Terminal Disclaimer in compliance with 37 C.F.R. § 1.321 disclaiming the appropriate term. Accordingly, Applicants respectfully submit that the double-patenting rejection over this patent has been overcome, and respectfully request the withdrawal of these rejections.

#### **B. Rejections Under 35 U.S.C. § 102(e)**

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,557,640 to Cook *et al.* ("Cook"). With respect to these rejections, the Office Action states:

The compressible composition is met by seals 3340, which is placed in an annular between the wellbore 3305 and the expandable pipe string 3335, the pipe string is then expandable to compress the seals to prevent the passage of fluid and other material within the annular region (col. 132, lines 27-44).

(Office Action at page 3.) Applicants respectfully disagree with these rejections.

In order to form a basis for a rejection under 35 U.S.C. § 102(e), a prior art reference must disclose each and every element as set forth in the claim. MANUAL OF PATENT EXAMINING PROCEDURE § 2131 (2005). Applicants have amended claim 1 in this response to recite that the compressible composition is a compressible hydraulic cement composition. However, *Cook* does not disclose the use of a compressible hydraulic cement composition. Rather, *Cook* discloses the use of the use of “sealing materials” such as lead, rubber, or epoxy. (See *Cook* at col. 132, ll. 36-45.)

Applicants therefore respectfully assert that *Cook* does not anticipate claim 1, as amended herein, and thus that claim is patentable over *Cook*. Moreover, since “a claim in dependent form shall be construed to incorporate by reference all the limitation of the claim to which it refers,” and since claim 2 depends from claim 1, claim 2 is allowable for at least the same reasons. See 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

**SUMMARY AND PETITION FOR EXTENSION OF TIME OF ONE MONTH  
TO FILE THIS RESPONSE**

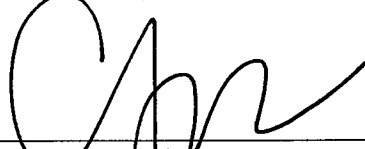
In light of the above remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections. Applicants further submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants hereby petition under the provisions of 37 C.F.R. § 1.136(a) for a one-month extension of time to file this Response, up to and including August 12, 2006.

The Commissioner is hereby authorized to debit Baker Botts L.L.P.’s Deposit Account No. 02-0383, Order Number 063718.1085, in the amount of \$430.00 for (1) the fee of \$120.00 under 37 C.F.R. § 1.17(a)(1) for the One-Month Petition for Extension of Time to File this Response, (2) the fee of \$180.00 for the fee under 37 C.F.R. § 1.17(p) for consideration of an Information Disclosure Statement after mailing of the first Non-Final Office Action on the merits, and (3) the fee of \$130.00 under 37 C.F.R. § 1.20(d) for the terminal disclaimer. Should the Commissioner deem that any additional fees are due, including any fees for extensions of

time, the Commissioner is authorized to debit Baker Botts L.L.P.'s Deposit Account No. 02-0383, Order Number 063718.1085.

Respectfully submitted,



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